WHAT IS CLAIMED IS:

1. A method for processing gray level image data comprising:

subjecting the gray level image data to halftone screen processing to form halftone processed screen image data;

analyzing a current pixel of the halftone processed screen image data to a test criterion to determine if the current pixel is a possible saturated color text image; and

if the current pixel meets the criterion for being a pixel of a possible saturated color text image selecting the gray level image enhanced processing modification of the current pixel for output to a printer or display; and

if the current pixel does not meet the test criterion for being a pixel of a possible saturated color text image selecting the current pixel gray level value as processed by the halftone screen processing for output to a printer or display.

2. The method according to claim 1 wherein the gray level image data is processed independently through plural halftone screen processors and the output of the two processors are blended.

3. The method according to claim 2 wherein in the step of analyzing the current pixel and plural neighboring pixels to the current pixel are examined relative to a threshold.

4. The method according to claim 3 wherein the threshold is adjustable.

5. The method according to claim 4 wherein one of the screen processors has a screen frequency of at least 200 lines per inch.

6. The method according to claim 5 wherein a current pixel meeting the criterion of being a saturated color text image has its gray level value adjusted to a maximum value before being processed by gray level enhanced processing.

7. The method according to claim 6 wherein in gray level enhanced processing a substantially binary image file is modified to add gray level pixels of a density less than maximum density to provide smooth edge transitions.

~~8. The method according to claim 1 wherein in gray level enhanced~~ processing a binary image file is modified to add gray level pixels of a density less than maximum density to provide smooth edge transitions.

9. The method according to claim 8 wherein the image data represents image data of a color separation file.

10. The method according to claim 9 wherein the image data is adjusted for color saturation according to a personal preference.

11. The method according to claim 10 wherein the image data is analyzed for contrast and in response to analysis for contrast blending coefficients are generated and the image data that is adjusted for color saturation is independently subjected to separate halftone screen processing with screens of different halftone frequencies and outputs of the processing by the different halftone screen processings are each modified by a respective blending coefficient.

12. The method according to claim 8 wherein the resolution enhancement processor is adjustable to provide for different levels of smoothing of edges.

13. A method for processing gray level image data comprising:

subjecting first gray level image data to plural separate halftone screen processings to form plural separate halftone screen processed gray level image data;

analyzing a current pixel of the first gray level image data for contrast index;

in response to the analyzing generating blending coefficients for processing that current pixel ;

processing the plural separate halftone screen processed image data with the blending coefficients to blend halftone screen processed gray level image data of the same current pixel to form a blended halftone screen processed gray level current pixel;

comparing the gray level of the blended halftone screen processed current pixel relative to a threshold criterion; and

if the gray level of the blended halftone screen processed current pixel meets the threshold criterion providing a gray level image enhanced processing modification of the current pixel for output to a printer or display; and

if the gray level of the blended halftone screen processed current pixel does not meet the threshold criterion providing the current pixel gray level as processed by the halftone screen processing for output to a printer or display.

14. The method according to claim 13 wherein in the step of determining if the gray level of the blended halftone screen processed current pixel meets the threshold criterion there are also examined gray levels of blended halftone screen processed neighboring pixels to the current pixel.

15. The method according to claim 14 wherein the threshold is adjustable.

16. The method according to claim 15 wherein the first gray level image data is color separation image data and prior to subjecting the first gray level image data to plural separate halftone screen processing the gray level image data is subject to processing for gray component replacement or undercolor removal.

17. The method according to claim 16 wherein the current pixel meeting the threshold criterion has its gray level value adjusted to a maximum value before being processed by gray level enhanced processing.

18. The method according to claim 17 wherein one of the screen processors has a screen frequency of at least 200 lines per inch.

19. The method according to claim 13 wherein in gray level enhanced processing a substantially binary image file is modified to add gray level pixels of a density less than maximum density to provide smooth edge transitions.

20. An apparatus for processing gray level image data comprising:

first and second halftone screen processing devices that form plural separate halftone processed screen gray level image data;

an ~~input to each~~ of said screen processing devices to input image data representing a current gray level pixel;

a device for analyzing the current pixel for contrast index;

a device responsive to the contrast index for generating blending coefficients;

a blending operation processor that generates a blended halftone data output for the current pixel;

an input at the blending operation processor for inputting respective outputs of the first and second halftone screen processing devices and the blending coefficients;

a gray level image enhancement processing device connected to the output of the blending operation processor;

a detector for examining the current pixel after operation by the blending processor and neighboring pixels thereof after operation of the blending processor and determining if the current pixel and such neighboring pixels represent a substantially binary image file and generating a signal relative to such determination; and

a selector , responsive to the signal, that selects either the gray level image enhancement processing device output or a bypass representing a blended halftone data output.

21. A method for processing gray level image data comprising:

subjecting first gray level image data to plural separate halftone screen processings to form plural separate halftone screen processed gray level image data;

blending halftone screen processed gray level image data of the same current pixel to form a blended halftone screen processed gray level value current pixel; and

if the blended halftone screen processed gray level value current pixel is substantially a maximum density pixel or is adjusted to be a substantially maximum density pixel subjecting the blended halftone screen processed gray level current pixel to a gray level image enhanced processing modification to reduce jaggedness in an image.

22. The method according to claim 21 wherein the plural separate halftone screen processings include a halftone screen processing employing a partial dot growth pattern and a halftone screen processing employing a mix dot growth pattern.

23. The method according to claim 21 wherein the plural separate halftone screen processings comprise a halftone screen processing suitable for a text type image and a halftone screen processing suitable for a pictorial image.

24. The method according to claim 21 wherein the plural halftone screen processed gray level image data is blended according to blending coefficients.